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Addressing climate change under preferential trade agreements: Towards alignment of carbon standards under the Transatlantic Trade and Investment Partnership

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ABSTRACT

With its wide coverage of economic spheres and the variety of trade and investment measures currently under negotiation, the Transatlantic Trade and Investment Partnership opens windows of opportunity for advancing action on climate change. We examine possible avenues and international trade law implications for an alignment of carbon-related standards between the EU and the US. We compare EU and US carbon emissions standards for cars and argue that negotiators should strive for a mutual recognition of their equivalence for a transitional period, while pursuing the goal of full harmonization at the level of the highest standards of two parties at some date in the future. This could be a way to balance between economic and environmental interests and harness economic incentives for the benefit of climate.

1. Introduction

The European Union (EU) and the United States of America (US) are presently negotiating the Transatlantic Trade and Investment Partnership (TTIP), a bilateral preferential trade agreement (PTA) with a high level of ambition for the liberalization of trade and the promotion of investment between two of the world's most powerful political and economic players. Accounting for nearly half of the world's gross domestic product (GDP) and almost one-third of the world's trade, the TTIP (if concluded) will belong to the family of mega-regionals currently being negotiated outside the multilateral trade forum of the World Trade Organization (WTO). The negotiations were launched in 2013 and cover a wide range of areas of transatlantic economic relations, including trade in goods, trade in services, government procurement, intellectual property rights and investment protection (European Commission, 2013b). They basically comprise three pillars: market access, regulatory cooperation and rules. Through the conclusion of TTIP, the EU and the US are striving to remove the remaining tariffs and to reduce non-tariff barriers in their bilateral trade. They also aim to facilitate investments in one another's economy by achieving a higher level of investment protection.

Economic benefits from the agreement are expected to be mutual and significant. An impact assessment study conducted by the Centre for Economic Policy Research in London suggests the EU economy could benefit by €119 billion a year and the US economy could gain an extra €95 billion a year (Francois et al., 2013). Although tariffs between the EU and US are already low, with an average of 5.2% for the EU and 3.5% for the US, the combined size of the EU and US economies and their markets means that removing the remaining tariffs would still significantly increase export revenues for EU and US firms (European Commission, 2013b). However, most of the expected economic benefits of the TTIP would come from the reduced costs of bureaucracy and regulations, and from liberalized trade in services and government procurement. Non-tariff barriers, in the form of regulations on the US and EU markets, add the equivalent of tariffs of 10–20% to the price of goods (European Commission, 2014a). While not seeking to eliminate the differences in policy choices regarding health and environmental protection, negotiators consider how to increase regulatory compatibility and coherence between the countries in

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general, and also at some particular sectors, like pharmaceuticals, cosmetics, medical devices, automobiles and chemicals. A cross-cutting chapter on regulatory cooperation in TTIP may contain provisions on regulatory cooperation mechanism, including sharing information on planned regulations and the possibility for the other party to give its feedback at a preparatory stage, cooperation in collecting data and evidence supporting regulatory action, and the assessment of impacts of planned regulations on international trade and investment based on common criteria and methods (European Commission, 2013c; Gerstetter, 2014). Sectorial negotiations on regulatory convergence are primarily aimed to find a common scientific basis for decision-making and develop common methodologies for assessing equivalence of EU and US regulations (European Commission, 2014c).

Besides economic gains, the TTIP presents an opportunity for furthering EU–US cooperation on sustainable development. A horizontal chapter on trade and sustainable development is part of the TTIP negotiating package (European Commission, 2013d). Its content is likely to follow the pattern developed in the standard sustainability chapters of existing EU and US PTAs having commitments on maintaining high level of environmental and social standards in trade and investment activities and promoting technological cooperation and information exchange on environmental and labour matters (OECD, 2007). PTAs, however, provide the possibility to address environmental issues beyond cooperation foreseen under sustainability chapters (Kernohan and De Cian, 2007). Trade and investment instruments promoting sustainable development goals can be adopted under PTA chapters on trade in goods, trade in services, technical barriers to trade, sanitary and phytosanitary measures, government procurement, investment and technology transfer. PTA measures can also be designed to target climate change (Holzer, 2014). With its wide coverage of economic spheres and the variety of trade and investment measures under negotiation, the TTIP opens windows of opportunity for climate change mitigation. While the main objective of trade agreements has little to do with climate protection, and climate change concerns are unlikely to be central to TTIP negotiations, some measures contemplated within the PTA framework could impact the carbon content of bilateral trade, thereby supporting the transition to a low-carbon economy in regions (Meltzer, 2014). One of such measures would be regulatory convergence in carbon (CO_2) emissions standards. Our article looks into the climate change relevance of TTIP's regulatory convergence and examines possible avenues for alignment of carbon emissions standards for cars of the EU and the US in accordance with the objectives of TTIP, the international trade rules of the WTO and the goals of climate policy.

2. Methods and theoretical framework

The article examines the possibility of regulatory convergence in carbon-related standards from a legal perspective and relies on legal methodology. We undertake a normative and comparative analysis of EU and US carbon emissions standards and standards-setting approaches in the automobile sector. We use the case study method to create an empirical basis and testing ground for our recommendations. We also rely on the historical analysis of negotiations of agreements concluded in the past. Furthermore, when exploring the legality of standards' alignment between the EU and the US and the implications for third countries, we draw on existing case law and use elements of hermeneutic analysis for the interpretation of texts of legal provisions.

We base our study on the assumption that regulatory cooperation and regulatory convergence is a welcome process, as it promotes economic integration and efficiency through the enhancement of transparency and compatibility of regulatory systems of countries, the elimination of unnecessary barriers to trade, the reduction of costs of doing business and the improvement of international competitiveness of firms (Bollyky, 2012). At the same time, we take into consideration the need of balancing between the opposing interests of economic development and environmental protection, and, respectively, those of trade liberalization and domestic regulation (Marceau and Trachtman, 2006). In this respect, we are aware of the current trend to enter into PTAs, which seems irreversible. Trade regionalization has intensified over the last decade and the tendency towards entering in PTAs is likely to preserve for the short and medium term future (WTO, 2011). It is thus important to explore the possibilities of making the process of trade regionalization climate-friendly, while also compatible with the multilateral framework of the WTO and the international climate regime. At the fore of our research is also the relationship between the system of multilateral trade rules of the WTO and various sets of bilateral trade rules of PTAs and sectorial mutual recognition agreements, as well as the related legal questions regarding exemptions from multilateral obligations, jurisdictional overlaps etc. (Davey and Pauwelyn, 2000; Pauwelyn, 2003).

When discussing the perspectives for multilateralization of TTIP carbon emissions standards for cars, we are inspired by the bottom-up approach to tackling global problems, which suggests that bilateral and plurilateral climate change initiatives can stimulate negotiations at the multilateral level and eventually be transformed into international climate policies endorsed at a multilateral forum (Fujiwara and Egenhofer, 2007). We also draw on the 'critical mass' approach to trade negotiations, which posits that once an agreement has been reached among major economic powers or major players in a sector, the benefits under the agreement could be shared with all other countries (Elsig and Cottier, 2011).

We use legal literature on the potential of preferential trade agreements to contribute to climate change mitigation and adaptation (Fujiwara and Egenhofer, 2007; Kernohan and De Cian, 2007; Holzer and Shariff, 2012; Meltzer, 2014). Yet, research in this field is not sufficient. Given the present lack of experience in dealing with the issues of climate change under PTAs, our study follows a normative approach: We suggest measures of regulatory convergence that could be employed within the framework of TTIP to promote climate change policy goals.

The article begins with a brief discussion of the climate change relevance of TTIP and proceeds with the analysis of challenges and possible outcomes of alignment of carbon-related standards between the EU and the US. As a next step, we present a case study of carbon emissions standards for cars and examine ways regulatory convergence in that area could lead to mutually beneficial outcomes for economy and climate change. In the next sections, the analysis of options for an alignment of carbon emissions standards for cars under TTIP is supplemented with a discussion of international trade rules guiding the process and perspectives for multilateralization of agreed outcomes.

3. The climate change relevance of TTIP

It can be expected that the impact of TTIP on climate change will primarily be indirect, as in most cases PTAs impact the environment indirectly (Ghosh and Yamarik, 2006). This means that the TTIP may decrease the negative effects on the environment not because of the environmental provisions it would contain, but because of the increase in income that would result from the liberalization of bilateral trade and would become available for investments in low-carbon technologies and support of climate change and other environmental programmes. This positive impact scenario would reflect the environmental Kuznets curve

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that shows positive relationship between environmental quality and economic growth once average income has reached a certain point. Empirical studies tend to find evidence of the environmental Kuznets curve for high-income developed countries, like the US and EU countries (WTO, 2009).

At the same time, there may also be a negative impact of TTIP on the climate, if the scale effect – the expansion of economic activity – offsets the technique and composition effects – changes in the structure of countries' production towards less carbon-intensive sectors and technological improvements, respectively (WTO, 2009). The economic growth driven by trade liberalization could result in increased consumption of non-renewable resources, all the more so as the EU and US are discussing the liberalization of the US energy export regime in order to launch US exports of natural gas and oil to the EU (European Commission, 2013a; Espa and Holzer, 2015). An agreement between the EU and the US potentially leads to an increase in the US production of shale oil and gas, which is associated with a carbon-intensive extraction process and environmental risks (Kavalov et al., 2009). It may also discourage investments in renewable energy in the EU (Carter and Sheppard, 2014).

Moreover, regulatory convergence pursued under TTIP may lead to a race to the bottom in the area of emissions standards and climate laws. EU green parties and environmental non-governmental organizations (NGOs) have expressed concerns that TTIP might become a pathway for the transmission of weaker climate policies and carbon standards from the US to the EU. They warn that the TTIP risks challenging existing EU carbon emissions standards and that some of EU's important environmental regulations can be challenged in courts under proposed TTIP's investment protection clauses (Gerstetter and Meyer-Ohlendorf, 2013). This particularly relates to laws affecting fossil fuel exploration and regulations that shorten the lifetime or curtail the profitability of carbon-intensive assets or activities, such as coal-fired power plants (Carter and Sheppard, 2014). These concerns are not without foundation especially in light of the fact that the US has failed so far to enact climate change legislation at the federal level and has not ratified the Kyoto Protocol with mandatory emissions reduction targets. In response to these concerns, EU negotiators officially stated that there would be no compromise whatsoever on environmental protection and each party will keep the right to protect their public policy interests at the level they consider necessary (European Commission, 2013b).

However, irrespective of or rather in addition to an indirect impact, the TTIP has the potential to contribute to achieving climate change policy objectives directly. It would be possible if it could contain provisions that specifically regulate the carbon content of bilateral trade, promote renewable energy and low carbon technologies and stimulate bilateral cooperation on climate change. It is now difficult to say whether and to what extent these topics are being taken up by TTIP negotiators, as negotiations are in flux and confidential. Climate change-related provisions may be contained not only in a separate chapter on trade and sustainability, but also in other chapters of an agreement, including chapters on trade in goods, trade in services, government procurement, energy, investment and dispute settlement (Meltzer, 2014). One such measure is the dismantling of trade barriers to environmental goods and services (EGS) (Meltzer, 2014). The elimination of tariffs, which is planned under TTIP across the board, would be a small step towards the achievement of this goal. Dismantling of non-tariff barriers to EGS is a more important and undoubtedly a much harder task.

The bilateral trade negotiations also present an opportunity to develop a binding legal framework for reducing fossil fuel subsidies and protecting renewable energy subsidies – a task that so far has not been achieved in other forums (Porterfield and Stumberg, 2014). Energy subsidies could be part of the negotiations of rules on trade in energy and raw materials. Moreover, the TTIP could include provisions on EU–US cooperation in areas related to the United Nations Framework Convention on Climate Change (UNFCCC) agenda, the functioning of market-based mechanisms of emissions reduction (e.g. emissions trading schemes) and development and deployment of green technologies, including carbon capture and storage, electro- and fossil cell vehicles, the fourth generation of nuclear reactors, etc. (Müller, 2007).

Finally, the TTIP could contribute to climate change policy goals by reaching agreements on the alignment of carbon regulations and standards. Harmonization of carbon laws and standards of the EU with those of the US at the level of the party with stricter carbon restrictions in the sector would contribute to the global reduction of emissions. It could reduce emissions from domestic production in the sector of the PTA party that had the lower carbon standards before the conclusion of TTIP, and reduce transatlantic carbon leakage (Holzer, 2014). It could furthermore stimulate the adoption of TTIP higher carbon standards by third countries, paving the way for the setting of global carbon standards and a global price on emissions. In what follows, we consider the feasibility and legal implications of different options for regulatory convergence in carbon standards under TTIP.

4. Challenges and possible outcomes of regulatory convergence in carbon-related standards between the EU and the US

Regulatory barriers to trade are generally much more difficult to remove than tariffs because they aim to achieve public policy objectives, such as the protection of the environment and public health (Nicolaidis and Shaffer, 2005). The US and the EU are both highly developed economies with practically equal negotiating power, which means that neither will be able to impose its own conditions on the other. In addition to heterogeneity of the EU and the US as political entities, the achievement of regulatory convergence in the field of carbon-related domestic regulations under the TTIP is complicated by existing transatlantic differences in fossil fuel resources, energy policy priorities and approaches to standard-setting.

4.1. EU–US differences in energy policies and standard-setting approaches

The EU economy is heavily dependent on energy imports. It imports about 55% of its energy supply – approximately 84% of its oil and 64% of its natural gas (Ratner et al., 2013). As a result, for many years, the main concern of the EU has been energy efficiency, an area where it has achieved remarkable progress (Müller, 2007). By contrast, the US depends much less on energy imports than the EU. The US is not only a major energy consumer and importer but also a world's major energy producer having huge reserves of shale gas, which are sufficient not only for domestic needs but also for export (The Economist, 2014). In fact, the US energy reserves allow the US production to be more energy-intensive. Although in the past decade the US has made some progress towards greater energy efficiency, it lags behind all but three of the world's twelve largest economies in overall energy efficiency, and in the transportation sector it occupies the bottom (twelfth) position in energy efficiency (Butcher, 2012). Furthermore, the US energy mix is more carbon-intensive than that of the EU. Half of the electricity generation in the US is based on coal combustion. Moreover, many EU member states have announced a phase-out of nuclear energy, banning the construction of new reactors, whereas the US, despite a constant reduction of nuclear energy generation

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every year, continues to render support for nuclear power stations (Kohl, 2007).

A regulatory convergence under the TTIP is further complicated by the differences in approaches to standards setting. Although both the EU and the US have well developed systems for ensuring safety and providing consumer and environmental protection, they often adopt different approaches to achieving the same goal. The fundamental difference is the reliance on the precautionary principle in the EU and on the cost–benefit analysis in the US. The exact legal content of the precautionary principle is unclear and highly disputable (Bergkamp and Kogan, 2013). Yet, generally, it can be interpreted that where there is uncertainty as to the existence of risks (e.g. to human health), the government can take protective measures without having to wait until the reality of those risks becomes apparent. The cost–benefit analysis employed in the setting of standards in the US takes a practical approach. It is based on the risk assessment and it looks at the balance between the regulatory benefits of the regulation and its costs (Trachtman, 2003). In general terms, the US relies more on quantitative data whereas the EU follows a qualitative approach (Bergkamp and Kogan, 2013).

Given that the precautionary approach is enshrined in the EU Lisbon Treaty (article 191, para. 2) and that the cost–benefit analysis is supported by US jurisprudence, it is unlikely that either the EU or the US will give up their approaches to standards setting. However, despite the regulatory differences between the EU and US, experts believe that the alignment of standards in a number of areas is possible based on a robust science-based procedure (Bergkamp and Kogan, 2013).

4.2. From mutual recognition of conformity assessment procedures to mutual recognition of equivalence and harmonization of standards

Regulatory convergence in products' standards between two or more countries does not need to occur in PTAs, and in most cases takes place outside PTAs (Canis and Lattanzio, 2014). Countries may agree to convert their different standards into the same ones to achieve full harmonization of their standards. However, while strongly supported by business and industries, the process of standard harmonization is very slow and is not easily attainable because of differences in institutions, conditions and interests of countries.

Faced with high costs of compliance with different standards in different markets and the difficulties of achieving harmonization of standards, countries usually enter into mutual recognition agreements (MRAs) reciprocally recognizing the equivalence of each other's standards and/or the results of conformity assessment procedures in certain sectors (Nicolaidis and Shaffer, 2005). Recognition of equivalence of standards means that the pertinent standards remain different in the two countries but, in their bilateral trade, these countries agree to treat each other's standards as if they were equivalent. One of the most prominent mutual recognition systems was developed within the single market of the EU after it became clear that the harmonization of standards among EC members was unrealistic. The EU's mutual recognition system is based on the *Cassis de Dijon* principle, according to which if a product meets the standards of any one EU member state, it can be sold throughout the Union (Devereaux et al., 2006).

A necessary supplement to both harmonization and recognition of equivalence of standards is recognition of conformity assessment procedures, i.e. procedures in which products are measured against the various safety, environmental and quality standards set by governments. It is the first step towards an alignment of standards between countries and the main subject of MRAs. The recognition of conformity assessment procedures entails recognition and acceptance by the importing country of results of product testing performed by conformity assessment bodies (CABs) of the exporting country. The basis of the recognition is the use of the importing country's tests and standards. Instead of inspecting the exporting country's manufacturers or products themselves, the CABs of the importing country accept the inspection reports issued by the exporting country's CABs, including authorized private ones, as being sufficient to demonstrate conformity with the standards of the importing country (Nicolaidis and Shaffer, 2005). Consequently, the mutual recognition of the results of conformity assessment procedures reduces costs by avoiding the need to duplicate testing of products in the other party's market (Devereaux et al., 2006).

Negotiations of a bilateral trade and investment agreement could facilitate the process of regulatory convergence between the EU and the US (Canis and Lattanzio, 2014). The outcomes of regulatory convergence under TTIP may vary in different sectors and for different products. In the area of carbon-related standards, regulatory convergence in its shallow form may lead to better coordination and greater transparency in the standardization process between the EU and US and to mutual recognition of results of conformity assessment procedures. A recent study argues that PTA commitments on technical barriers to trade may encourage cooperation among standard-setting bodies of PTA parties leading to the development of common approaches to issues such as energy efficiency and the methodology for determining the greenhouse gas (GHG) lifecycle of products (Meltzer, 2014). In its deeper form, regulatory convergence may result in the recognition of equivalence of EU and US standards or even full harmonization of some standards.

4.3. Prospects for the expansion of the 1998 EU–US MRA

In 1998, the EU and the US signed an MRA that covers six product areas: telecommunications equipment, electromagnetic compatibility, electrical safety, recreational craft, good manufacturing practices for pharmaceuticals, and medical devices. It is a traditional MRA that does not provide for recognition of standards but merely designates the CABs from both parties and obliges the importing country to recognize the certification procedures followed by these bodies, and their outcomes, in the territory of the exporting country. The mutual recognition of standards proved to be unattainable in view of the existing regulatory differences between the US and the EU, particularly as concerns the institutional basis of certification and testing procedures. Concerns were raised, for instance, that an agreement on mutual recognition of standards would radically alter the role of regulators in the US, relying on a more rigorous and taxing approval system than in the EU (Devereaux et al., 2006). Consequently, the agreements on mere recognition of testing, certification and inspection procedures in the specified sectors took four years to negotiate, and many terms appeared to be non-operational at the implementation stage. Problems in implementing the agreements arose in the sectors of medical devices, pharmaceuticals and electrical safety. These problems were mainly caused by the reluctance of the US regulatory agencies (e.g. Food and Drug Administration, Occupational Safety and Health Administration, etc.) to acknowledge EU inspection and testing procedures as equivalent to those of its own procedures (Devereaux et al., 2006). In 2003, when it became clear that the European producers of electrical appliances essentially gained nothing from the MRA, the EU withdrew from the participation in the MRA on electrical safety.

Despite the challenges facing the implementation of the 1998 EU–US MRAs, the TTIP negotiations on regulatory

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convergence can build on these agreements and strive for the extension of sectoral scope. Moreover, the mutual recognition of the results of conformity assessment procedures could be supplemented with the recognition of equivalence of standards for certain products, and in some cases could possibly lead to harmonization of EU–US standards. As the recognition of standards and their harmonization is proving to be a long process, the TTIP negotiations may end up with a framework agreement, which would set conditions and a timeline for mutual recognition and harmonization of standards to be implemented within, say, five to seven years after the conclusion of TTIP. As experience with the 1998 EU–US MRA shows, achieving sectoral MRAs is not possible without direct involvement of industry representatives who are familiar with actual business practices and who know what concessions their industry could offer to its foreign counterpart (Devereaux et al., 2006).

However, it is important that the alignment of standards between the EU and US does not lead to a race to the bottom. Higher carbon standards should not be substituted with lower carbon standards in pursuit of trade facilitation goals. It means that the highest of the two parties' standards should serve as the basis for harmonization, and not the lowest ones.

5. A case study of carbon emissions standards for cars

The automobile sector is among the industries where TTIP negotiators strive to achieve an alignment of technical regulations (European Commission, 2014c). Trade in cars, which in 2012 amounted to USD 57 billion, is an important segment of transatlantic trade (Canis and Lattanzio, 2014). The US accounts for 18% of all EU car exports, and approximately 13% of all EU car imports come from the US (European Commission, 2015). An alignment of technical regulations for cars produced on both sides of the Atlantic would significantly expand bilateral trade in cars. For this to happen, the EU and the US have to recognize as many as possible of their respective requirements for cars as equivalent to each other. It can however be done only for those standards, which although being different between the EU and the US, generally allow achieving similar levels of safety and environmental protection (European Commission, 2015). The benchmark for recognition of equivalence of car carbon emissions standards between the parties is thus the level of CO_2 emissions reductions, which the standards insure. Harmonization of standards provides a second avenue for alignment. Yet, to serve the objective of emissions reduction, harmonization of carbon emissions standards for cars must be done at the level of the highest standards of two parties.

Comparing carbon emissions standards for cars between the EU and the US is challenging due to different approaches which were historically used in the EU and the US to setting standards for carbon emissions from cars and because of differences in standards' structure, form and testing methods (Canis and Lattanzio, 2014). The EU introduced a comprehensive legal framework to reduce CO_2 emissions from new light-duty vehicles in 2009. The adoption of the legislation on CO_2 standards for cars in the EU was driven by concerns about the increasing emissions in the automobile sector and was part of the EU's efforts to ensure the achievement of emissions reduction targets under the Kyoto Protocol and beyond (Ten Brink, 2010). The legislation sets binding emission targets for new car and van fleets. For cars, the automaker's new fleet must not emit more than an average of 130 g CO_2 per kilometre (km) by 2015 and 95 g CO_2/km by 2020 (European Commission, 2014b). Translated into fuel consumption norms, the 2015 standard is equivalent to 5.6 litres (l) per 100 km of gasoline or 4.9 l/100 km of diesel. The 2020 norm corresponds to 4.1 l/100 km of gasoline or 3.6 l/100 km of diesel. For vans, the producer's new fleet is permitted to emit on average 175 g CO_2/km by 2017 and 147 g CO_2/km by 2020 (European Commission, 2014b). Translated into fuel consumption norms, the 2017 target corresponds to 7.5 l/100 km of gasoline or 6.6 l/100 km of diesel. The 2020 target is equal to 6.3 l/100 km of gasoline or 5.5 l/100 km of diesel.

Carbon emissions standards for cars in the US are based on the fuel economy standards. The Corporate Average Fuel Economy (CAFE) standards were enacted in 1975 and initially intended to increase the fuel economy of US cars in the wake of the Arab Oil Embargo (C2ES, 2014). Nowadays, they also pursue the objectives of emissions reduction (EPA, 2012). CAFE standards are set in miles per gallon (mpg) and depend on the vehicle's "footprint", which is the size of a vehicle determined by multiplying the vehicle's wheelbase by its average track width. The CAFE footprint requirements are progressive: a vehicle with a larger footprint has a lower fuel economy norm than a vehicle with a smaller footprint. The standard does not apply to every single vehicle but to an automaker's fleet average. Non-compliance with a CAFE standard entails a fine for every 0.1 mpg below the standard multiplied by the total production volumes of the car producer. Additionally, the Gas Guzzler Tax is levied on individual passenger car models (but not trucks, vans, minivans, or sport utility vehicles) that do not meet CAFE standards. CAFE standards have been tightening over the years and will reach 54.5 mpg (4.32 l/100 km) in 2025 (C2ES, 2014). Stricter CAFE standards are beneficial both for the environment and for the economy. While stricter CAFE standards are opposed by car manufactures, it is projected that car buyers will save an average of US$8000 per car in reduced costs of fuel in 2025 (EPA, 2012). Moreover, stricter CAFE standards are beneficial for producers of car components as new technologies and additional components are needed to make cars more fuel-efficient.

Efforts to harmonize EU and US technical regulations for vehicles have been made at various bilateral and international forums for many years (Canis and Lattanzio, 2014). Yet, they show that obtaining equivalency determinations is difficult. It is particularly true in the area of carbon emissions/fuel economy standards, where differences remain not only in the form of standards but also in the level of emissions reductions they pursue. As seen in Table 1, the EU standards for 2021 are stricter than those of the US.

The TTIP negotiations could facilitate convergence in these standards. Harmonization of car carbon emissions standards at the level of the highest standards of two parties would be desirable for climate change mitigation and should be the ultimate goal of negotiations in this area. Yet, it will be a long process given the investments required for technology adjustment and the need for complex legislative changes on both sides of the Atlantic (Canis and Lattanzio, 2014; European Commission, 2015). Nevertheless, what the TTIP negotiations should strive for is a mutual recognition of equivalence of EU–US car carbon emissions standards for some transitional period, while setting the goal of their full convergence at the highest level of standards of two parties at a specified date in the future. This would be a way to reconcile economic and climate policy interests or, more precisely, a way, which would harness economic stimuli for the benefit of climate.

Table 1
Comparison of EU and US carbon emissions standards for passenger cars (based on the data of C2ES, 2014 and European Commission, 2014b).

	EU	US
2015	130 g CO_2/km or 5.6 l/100 km	36.4 mpg or 6.5 l/100 km
2021	95 g CO_2/km or 4.1 l/100 km	46.1 mpg or 5.1 l/100 km

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6. Compatibility of standards' alignment under TTIP with international trade rules

In the negotiations on alignment of car carbon emissions standards, the EU and the US are bound by their obligations under the WTO Agreement, as the use of standards affecting trade is subject to WTO rules (Trachtman, 2003). A standards' alignment must be in compliance with non-discrimination rules of the WTO's General Agreement of Tariffs and Trade (GATT) and Agreement on Technical Barriers to Trade (TBT Agreement). Furthermore, as the alignment process is taking place under PTA, it is also subject to WTO requirements for formation of PTAs. Considering that obligations under different WTO agreements are cumulative and interpreted in accordance with the principle of effective interpretation, these two sets of rules would apply cumulatively (US – Gasoline, Appellate Body Report, p. 23).

6.1. WTO rules generally applicable to regulatory convergence on products' standards

While not obliging WTO members to harmonize products' standards, the TBT Agreement promotes harmonization of technical regulations (mandatory standards) in Article 2.5 that encourages the use of international standards. It also contains provisions on unilateral recognition of equivalence of standards and unilateral recognition of results of conformity assessment procedures. Under TBT Article 2.7, "(m)embers shall give positive consideration to accepting as equivalent technical regulations of other Members, even if these regulations differ from their own, provided they are satisfied that these regulations adequately fulfil the objectives of their own regulations". However, the actual normative value of this provision is unclear (Marceau and Trachtman, 2006). Even if the words 'members shall give positive consideration' could be interpreted as being close to a requirement (European Commission, 2002), this requirement is weakened by the second part of the sentence ('provided they are satisfied'), which allows WTO members to make their own decision as to whether or not they are satisfied with the level of other countries' standards. The recognition of equivalence can thus be rejected at the discretion of the importing country. A similar situation exists with unilateral recognition of results of conformity assessment procedures under TBT Article 6.1.

Moreover, the TBT Agreement contains a provision encouraging mutual recognition of results of conformity assessment procedures. Article 6.3 states that "(m)embers are encouraged, at the request of other members, to be willing to enter into negotiations for the conclusion of agreements for the mutual recognition of results of each other's conformity assessment procedures". This provision provides the legal basis for mutual recognition agreements (Nicolaidis, 1997). Yet, it also raises a question of consistency with the fundamental principle of most-favoured nation (MFN), as stipulated both under the GATT and the TBT Agreement. Pursuant to the MFN principle, any advantage given to any product from one country shall be extended to like products originating in all other WTO members regarding the application of any laws, regulations, requirements, rules, formalities (GATT Art. I:1) and, specifically, technical regulations (TBT Art. 2.1). By contrast, MRAs provide an advantage of improved market access only to MRA parties, while impacting the competitive positions of non-participating countries (Davey and Pauwelyn, 2000). It could be argued, however, that MRAs are "part of the positive integration exercise", which should be welcome (Marceau and Trachtman, 2014, p. 394). Moreover, it seems logical that "WTO agreements ... encourage members to negotiate MRAs but at the same time require that they do so in a transparent and open way" (Davey and Pauwelyn, 2000, p. 24). The non-observance of MFN could also be legitimized by the fact that "bilateral or plurilateral mutual recognition deals cannot be 'multilateralised' automatically as provided by the MFN rule, simply because concessions based on assessing current and future equivalence of regulatory systems are not fungible. Hence, under an MRA, the MFN treatment is indeed conditional, not on some symmetrical lowering of trade barriers, but on actual compatibility of rules or equivalence of procedures" (Nicolaidis, 1997, p. 68). This, however, has never been tested in a WTO dispute and remains an open question.

6.2. WTO rules guiding regulatory convergence on products' standards in PTAs

A standards' alignment under a PTA raises an additional question of whether GATT Article XXIV, which lays down requirements for PTAs for trade in goods, could excuse a standards' alignment from a violation under the GATT and the TBT Agreement, particularly regarding the MFN obligation. The question is whether 'closed' recognition agreements, i.e. only between PTA parties and closed to third countries, are allowed. The answer depends on whether regulatory convergence is part of WTO requirements for formation of PTAs.

The external requirement to PTAs under GATT Article XXIV:5 prohibits PTA parties to increase trade barriers for products from third countries (Mavroidis, 2006). Accordingly, if the absence of regulatory convergence in a PTA led to an increase in trade barriers for third countries after the formation of a PTA, regulatory convergence would be mandatory for a PTA. This does not seem to be the case. Although there is some evidence that regulatory convergence under a PTA may produce economies of scale for third countries and its impact for them may be positive (Cottier et al., 2014), it cannot be argued that preserving the *status quo* in standards (i.e. no alignment of standards between PTA parties) would result in higher trade barriers for third countries after the formation of a PTA, given that the very same barriers existed before the PTA was concluded. Under the internal requirement to PTAs under GATT Article XXIV:8, customs duties and other restrictive regulations of commerce must be eliminated with respect to substantially all the trade within a PTA. If the difference in standards between countries could fall within the meaning of 'other restrictive regulations of commerce', their alignment would be required within a PTA. Yet, taking into account that countries have the right to set standards (EC – Asbestos, Appellate Body Report, para. 168), standards of one country that are different from standards of other countries cannot be viewed as 'restrictive regulations of commerce', the elimination of which through standards' alignment is required. In sum, an alignment of standards between PTA parties cannot be considered to be a requirement for formation of PTAs. This means that MRAs concluded within PTAs raise the issue of compliance with the MFN obligation to the same extent as MRAs that are concluded outside PTAs (Trachtman, 2003; Nicolaidis and Shaffer, 2005).

There might be an exception, however. A measure taken on formation of PTA could be excused from a GATT violation if not applying the measure would prevent the conclusion of agreement (Turkey-Textiles, Appellate Body Report, para. 58). In other words, the MFN issue would be settled if it could be established that the US and the EU would not have ratified the TTIP without agreeing on standards' alignment. Can standards' alignment be viewed as such a *conditio sine qua non* for the TTIP? Possibly yes, considering the importance the parties attach to achieving regulatory convergence under the TTIP. Be it as it may, the PTA status would not exempt TTIP measures taken for regulatory convergence from obligations under the TBT Agreement. This is because GATT Article XXIV can apply to obligations under other WTO Agreements only if there is direct reference in those agreements to GATT provisions

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(Turkey-Textiles, Appellate Body Report, footnote 13). The purpose of furthering the objectives of the GATT fixed in the preamble of the TBT Agreement is unlikely to create a sufficient link.

Like the GATT, the TBT Agreement contains the MFN requirement, which is expressed in Article 2.1 as a prohibition of 'less favourable treatment' of like imported products in the application of technical regulations. Yet, this requirement is not the same as under the GATT, as it does not prohibit a detrimental effect on imports, which stems exclusively from a legitimate regulatory objective (US – Clove Cigarettes, Appellate Body report, para. 180–182). Accordingly, a recognition of standards between the US and the EU, which increases market access for EU and US products but does not provide the same advantage for products from other WTO members, might be justified on the grounds of a legitimate regulatory objective. As the list of legitimate policy objectives for technical regulations in TBT Article 2.2 is not closed (Marceau and Trachtman, 2014), a WTO adjudicative body in a dispute over an MRA could find the regulatory objective under which the MRA was concluded to be legitimate for the purposes of the non-discrimination test under Article 2.1. Such an interpretation would reconcile the provision encouraging MRAs with the MFN obligation under the TBT Agreement and would be in line with the principle of commutative application of WTO provisions.

Moreover, the TBT provisions on unilateral recognition of equivalence of technical regulations and results of conformity assessment procedures would require the US and the EU to give positive consideration to third countries' standards. If approached by third countries, the EU and the US would not be able to simply ignore requests about the recognition of equivalence of third countries' car carbon emissions standards, were these standards to provide for the same level of emissions reductions as those of the EU and the US. As the experience with negotiating the EU–US MRAs in the wake of the creation of the EC mutual recognition system shows that the initiation of talks with the purpose of reaching MRAs, even if only on the subject of conformity assessment procedures, would hold back the complaints against the EU and the US in the WTO by third countries (Devereaux et al., 2006). Technical assistance for upgrading standards to the TTIP level, provided by the EU and US particularly to developing countries, might also help mitigate the risk of third countries bringing a complaint under the WTO dispute settlement procedure. As evidence of 'openness', EU–US MRAs may also foresee the status of 'associate parties' for third countries and create a roadmap for their future inclusion (Nicolaidis and Shaffer, 2005).

7. Perspectives for multilateralization of TTIP standards and implications for third countries

An alignment of EU and US carbon emissions standards for cars under TTIP could be the first step towards establishing global standards in this field contributing to global emissions reductions (European Commission, 2015). Indeed, a standards' alignment under TTIP may create economic incentives for third countries to adopt TTIP standards. To a large extent, it would depend on the form of alignment agreed under TTIP and its impacts on third countries. The impacts of harmonization of standards would be different from the impacts of mutual recognition of standards' equivalence and conformity assessment procedures. Harmonization of standards would lead to economies of scale so that third countries would have access to a larger market once their products comply with the standards of TTIP parties (Cottier et al., 2014). By contrast, a mutual recognition of conformity assessment procedures and especially a mutual recognition of equivalence of standards will most likely undermine the competitive positions of third countries, as products from third countries will be discriminated in the TTIP parties' markets against products originating in the EU and the US. In such a situation, to stay competitive in the EU and US markets, exporters from third countries would either have to unilaterally adjust to TTIP standards or conclude MRAs with the EU and the US. Otherwise, they would need to reorient their exports to other markets (Cottier et al., 2014).

7.1. Diffusion of TTIP standards through unilateral adoption by third countries

The above-mentioned economic effects of standards' alignment may stimulate the diffusion of EU–US carbon-related standards, including carbon emissions standards for cars, through their voluntary adoption by third countries. There are however limits to such diffusion. It is unlikely that countries such as China, India and other emerging economies, which are the world's largest carbon emitters, would also adopt carbon standards or adjust their existing carbon standards to those of the EU and the US. They would have enough economic power not to have to do this except for products that they export to the US and the EU. These countries may soon have enough demand for their products in their own markets and in the markets of other fast-growing developing countries (Karmakar, 2013). In that case, upgrading of standards in the markets of advanced developing countries can only be stimulated by their own consumers once they become willing to pay the price premium for a higher level of protection (Karmakar, 2013). In the meantime, these countries may establish double standards: a set of standards for products exported to the EU and US markets and another set of standards for products sold in their own markets. Alternatively, they would simply seek the conclusion of MRAs on results of conformity assessment procedures with the EU and the US to reduce the costs of their compliance. Under these circumstances, instead of multilateralization, the TTIP carbon standards' alignment process would lead to further fragmentation of the world's regulatory regimes linked to climate change.

7.2. Plurilateralization through PTAs

The adoption of TTIP standards by third countries may also occur under EU and US PTAs with third countries. The EU and the US may, for instance, negotiate the use of their car carbon emissions standards aligned under TTIP in vehicles' trade with third countries as part of future PTAs. While the success of this strategy depends on the scope of a trade agreement and the negotiating powers of trading partners, the economic benefits and negotiating mechanism of PTAs are generally conducive to reaching a compromise by accepting trade-offs, especially when developing countries are supported by financial and technical assistance from developed country parties (Holzer and Shariff, 2012). Such plurilateral forums and agreements as the Trans-Pacific Partnership (TPP) and Asia-Pacific Economic Cooperation (APEC) could serve as an umbrella for bilateral or plurilateral agreements on standards modelled on the TTIP.

7.3. Multilateralization through the WTO and other international forums

EU–US standards aligned under TTIP may also be multilateralized in negotiations at the WTO and specialized international organizations and forums. This is because the size of the EU and US markets may create a critical mass for globalization of standards. TTIP may serve as a model for other countries and become binding through an international sectorial agreement (European Commission, 2015). If agreed under TTIP, carbon emissions standards for cars may particularly be used as the basis

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for development of global vehicle standards at the World Forum for Harmonization of Vehicle Regulations of the United Nations Economic Commission for Europe (UNECE) within the framework of UNECE Agreement on Global Technical Regulations (GTRs) (UNECE, 1998).

8. Conclusions

We examined the possibility of alignment of carbon-related standards under TTIP bearing in mind climate policy objectives. In the automobile sector, harmonization of carbon emissions/fuel economy standards at the level of the highest standards of the EU and the US is desirable for climate change mitigation and should be the ultimate goal of negotiations on regulatory convergence in this sector. But due to the need of automakers to adjust to higher standards with major investments in upgrading technologies and the need for complex changes in each party's legislation, harmonization can only be considered in relation to future standards. What TTIP negotiations should strive for is a mutual recognition of equivalence of EU and US car carbon emissions standards for a limited transitional period, while setting the goal for harmonization of these standards at the highest level of two parties at a specified date in the future. This strategy would be a way to balance between economic and environmental interests and harness economic incentives for the benefit of climate.

When working on an alignment of carbon emissions standards for cars, TTIP negotiators could draw on the experience of the 1998 US–EU MRA and need to consider the EU and US obligations under the WTO Agreement. The examination of applicable WTO rules shows that the WTO law issues of alignment of standards under TTIP are no different from what they would be if this process were carried out outside the PTA framework. The PTA status does not exempt measures aimed at regulatory convergence under TTIP from compliance with the rules of the GATT and the TBT Agreement. At the same time, these rules do not seem to create major obstacles if the alignment process is transparent and open. In light of the provision of TBT Article 2.7 on unilateral recognition of equivalence of standards, and the provision of TBT Article 6.1 on unilateral recognition of results of conformity assessment procedures, if approached by third countries the EU and the US would not be allowed to simply ignore requests about the recognition of equivalence of third countries' standards. They would have to give positive consideration to third countries' standards. As the experience with negotiating the EU–US MRAs shows, the initiation of talks with the purpose of reaching MRAs, even if only on the subject of conformity assessment procedures, could hold back the complaints against the EU and the US in the WTO by third countries.

An alignment of EU and US carbon-related standards under TTIP will be the first step towards an adoption of international standards regulating carbon emissions in different products, which will facilitate global emissions reductions. There are at least three channels through which the diffusion of TTIP carbon-related standards to the rest of the world could occur. Standards' alignment between the EU and the US may create economic incentives for third countries to voluntarily adopt TTIP standards. Yet, this channel has limits for countries with market power, especially for emerging economies. The diffusion of TTIP standards may also occur under EU and US PTAs with third countries. The feasibility of this channel depends on the scope of a PTA and the negotiating powers of its parties. EU and US could encourage their trading partners belonging to developing countries to adopt TTIP standards by providing technical assistance. Finally, TTIP standards may find their way into global harmonization through the World Trade Organization and other international forums.

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